

REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

In the present Office Action, the drawings have been objected to under 37 C.F.R. §1.83(a) as allegedly not showing every feature of the claimed invention. Specifically, the Examiner alleges that the drawings do not show the "guard ring".

Applicants respectfully disagree with the Examiner's statement that the drawings do not show every feature of Claims 53-55, and Claims 58-59. Before discussing this in great detail, Applicants point out that Figs. 1-12 are cross sections of the inventive process to create the structure recited in Claim 53. Applicants respectfully submit that the cross section of the gate conductor ring guard is shown at the junction of the array support regions, as indicated by reference number 65.

Further, the drawings represent one array/support interface and the instant specification, on page 11, line 17, has noted that although the drawings represent one array/support interface a memory structure may include any number of array regions 12 and support regions 14 therein. The drawings represent one array/support region because it is at this region, the interface between the array and support regions 12, 14, in which the gate conductor ring guard 65 structure of the present invention is produced. As supported by the specification, on page 11, line 13, each array region 12 is surrounded by isolation region 16 that separates support regions 14 and array regions 12 of the memory structure. Therefore, because the gate conductor guard ring 65 is formed on a structure that surrounds the array region, but does not cover the entire surface of the array, a ring

structure is produced. A cross section of the gate conductor ring guard at the interface of the array and support regions 12, 14 is pictorially represented in FIGS. 9-12 as reference number 65.

Each of the above reference numerals, which correspond to various elements recited in Claims 53-55 are shown in FIGS.1-12; therefore the drawings show each and every element of the claimed invention. Applicants thus submit that the Examiner's objection to the drawings is improper and that the same should be withdrawn since the drawings do show the features recited in Claims 53-55. If the Examiner is still of the opinion that the drawings do not show each and every element of the claims, the undersigned hereby requests that the Examiner telephone him to discuss the matter before another Official Action is issued.

In the present Office Action, Claims 53-55 stand rejected, under 35 U.S.C §112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim what the applicant regards as the invention. Specifically, it is the Examiner's position that the claimed limitations of a "gate conductor guard ring" and "a stringer" are unclear. Claims 54 and 55 are dependent on Claim 53 and allegedly are indefinite for the same reason.

Applicants respectfully disagree with the Examiner's opinion that Claims 53-55 are indefinite. During patent examination, the pending claims must be given the broadest reasonable interpretation consistent with the specification. *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027(Fed. Cir. 1997); *In re Prater*, 415 F.2d 1393, 162 USPQ 541 (CCPA 1969). Further, definiteness of claim language must be analyzed not in a vacuum, but in light of: (A) The content of the particular application disclosure;

(B) The teachings of the prior art; and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. *See MPEP 2173.02.* Applicants submit that Claim 53 particularly points out and distinctly claims a gate conductor guard ring structure that is supported in the disclosed specification and has a definite meaning to one of ordinary skill in the pertinent art.

Applicants respectfully submit that, when viewing the specification as a whole, taking into account the summary of the invention, the detailed description of the invention, and the respective drawings, Claim 53 particularly points out and distinctly claims the invention.

First, the term "stringer" is not indefinite, as alleged by the Examiner, because it is a common term used by one of the ordinary skill in the art. Specifically, the term "stringer" is known in the art as unwanted fragments of polysilicon that can be a source for a short if not removed prior to finalization of the device.

In addition, the use of the term "stringer" in the context of the specification is consistent with its use by those of ordinary skill in the art. For example, as indicated on page 3, lines 9-11 of the instant specification, the presence of the guard ring provides an internal protection scheme, which prevents the designer from placing a gate conductor, such as polysilicon, across the isolation region.

Secondly, gate conductor guard ring as utilized in Claim 53 does not render the claim indefinite. Claim 53 positively recites "a gate conductor guard ring 65 formed around said array region 12 on top of said isolation structure 16". FIG. 12, representing the final device of the present embodiment, supports a gate conductor guard

ring 65 positioned on top of the isolation region 16 indicating a definite structure consistent with Claim 53. Further, as indicated by the specification on page 11, lines 10-13, the isolation region on which the gate conductor guard ring 65 surrounds and separates the array 12 from the support regions 14 of the device therefore forming a "ring" structure around the array as claimed.

Finally, the gate conductor guard ring is defined in Claim 53 using the term "ring". Claims must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989), MPEP 2111.01. Therefore Claim 53 has claimed the invention, with clarity and precision, to include a circular "ring" configuration structure surrounding the array consistent the common usage of the terms of the claim. Additionally, the instant specification indicates, on page 3, line 30, the importance of the positioning a strip of SiO₂ above the isolation region of the device, which surrounds the array, as a groundrule for forming the gate conductor guard ring.

Applicants make clear and precise use of the above discussed terms in Claim 53 to further define the metes and bounds of the invention by indicating that the gate conductor guard ring is positioned to prevent trapping of a stringer of polysilicon on said isolation region.

In view of the above remarks, the rejection to Claim 53 and dependent Claims 54 and 55 under 35 U.S.C. §112, second paragraph has been obviated; therefore reconsideration and withdrawal of the instant invention are respectfully requested.

Claims 53-56 stand rejected under 35 U.S.C. §103(a) as allegedly obvious over U.S. Patent No. 5,945,704 to Schrems, et. al. ("Schrems, et al."). Claims 57-59 stand

rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Schrems, et. al. in view of U.S. Patent No. 5,897,371 to Yeh, et al. ("Yeh, et al."). Applicants respectfully traverse the aforementioned §103 rejections in view of the following remarks.

First, with respect to Claim 53, the Examiner has noted on page 3 of the instant Office Action, that the principle reference, Schrems, et al., "fails to disclose the following: at least a gate conductor guard ring formed around an array region on top of said isolation region, wherein said gate conductor guard ring prevents trapping of a stringer of polysilicon on said isolation region." The gate conductor guard ring has been clearly and distinctly defined throughout the present application, as discussed above. Since Schrems, et al. do not teach or suggest the presence of a guard ring, and the fact that the principle reference does not teach or suggest the presence of a support region, let alone a support region that is separated from the array region by a gate conductor guard ring positioned atop an isolation region atop, Claims 53-56 are not rendered obvious by Schrems, et al. Therefore, because the applied reference does not teach or suggest the limitations of Claim 53 a *prima facie* case of obviousness has not been established. If an independent claim is non-obvious under 35 U.S.C. §103(a), then any claim depending therefrom is non-obvious. *In re Fine*, 837F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). In light of the above remarks, applicants respectfully request that the rejection to Claims 53-56 under 35 U.S.C. §103 be withdrawn.

In regard to the obviousness rejection based on the combination of Schrems, et al., and Yeh, et al., Claim 57 recites "a dual workfunction high-performance support MOSFET/EDRAM array comprising at least one support region having a local interconnect formed therein, and at least one array region having at least one wordline

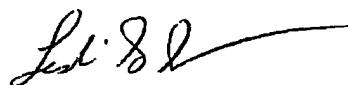
formed therein, said at least one array region and said at least one support region are separated by an isolation region, and at least one wordline and said local interconnect are comprised of identical material".

Applicants submit that the applied references do not fulfill the requirements to support a prima facie case of obviousness with respect to Claim 57. "To establish a prima facie case of obviousness of a claimed invention all the claimed limitations must be taught or suggested by the prior art". *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 44, 496 (CCPA 1970). Schrems, et al. disclose only an array region of a device. Schrems, et al. do not teach or suggest the limitation of a support region as recited in Claim 57. Further, Schrems, et al. do not teach at least one support region having a local interconnect formed therein as recited or suggest in Claim 57. In addition, the secondary reference, Yeh, et al., fails to fulfill the deficiencies of the primary reference, Schrems, et al., with respect to teaching or suggesting a support region and a local interconnect formed in the support region. Therefore, because the cited references fail to provide all of the limitations of the claimed invention the requirements for a prima facie case of obviousness, under 35 U.S.C. §103(a), have not been met.

Based on the above remarks the rejection of the Claim 57 under 35 U.S.C. §103 has been obviated. If an independent claim is non-obvious under 35 U.S.C. §103(a), then any claim depending therefrom is non-obvious. *In re Fine*, 837F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Applicants respectfully request reconsideration and withdrawal of the instant rejections.

Wherefore, reconsideration and allowance of the claims of the present application is respectfully requested.

Respectfully submitted,



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